



# *Growing Sustainable Energy in Austin, Texas*

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Presented by: Cliff Braddock

December 4, 2003



## *Information you can't live without...*

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# *Today's Topics:*

- ★ *City of Austin Position Regarding Energy*
- ★ *Review of Austin Energy Projects*
- ★ *View of the Future*



# *Austin Energy Profile*

- ★ *Tenth Largest Electric Municipal in US  
(~\$800M sales, 350,000 customers, 1,400 employees)*
- ★ *2,800 MW capacity (Coal, Nuclear, Gas, 110 MW renewable)*
- ★ *Largest Renewable Energy Utility in US  
(Double Sacramento and Denver combined)*
- ★ *City Department - City Council is  
"Board of Directors"*



# ***Austin Energy Programs***

- ★ *Energy products (District Energy, BCHP and DG)*
- ★ *Green Choice® (Renewables)*
- ★ *Green Building*
- ★ *Commercial Energy Management*
- ★ *Residential Conservation*



# *Competitive Situation*

- ★ *Texas IOU's retail competition began January, 2002*
- ★ *Municipal utilities and coops may "opt in" to retail choice, but fully participate in wholesale market.*
- ★ *Convergence of technology and market forces drive change*



# ***Texas Deregulation?***

*Major components of deregulation:*

- New Retail Electric Providers*
- New Generators*
- Unbundling Existing Utilities*
- Regulatory role changed from price regulation to conduct/behavior regulation*





# *How Did Deregulation Turn Out?*



*More complicated than trucking, airlines, and telephone.*

- *Balancing issues, transition costs, new systems/software/service personnel, transmission congestion adds \$100's M to trading costs*



*System reliability maintained - more complicated than before.*

- *Market processes replace local control.*
- *Higher costs due to congestion and balancing.*





# *How Did Deregulation Turn Out?*

## *Customer Switch Rates:*

- *Switch rates higher than other markets*
- *90% of industrial and large commercial customers served at reduced rates.*
- *Power Plant glut*



# *How Much Savings?*

*2002: \$1.5 billion... BUT:*

- Over \$1 billion from lower natural gas costs. And in 2003, gas costs increases have eliminated "savings."*
- Over half of "savings" from mandated rate cut - due SB-7 legislation - not competition*
- Competitive savings: < \$200 M*
  - Savings to residential customers: approx \$11 million.*



# *City Of Austin's Position on Deregulation*

*September 2001 Council Resolution:*

*Five conditions prior to opting in:*

- In the best interest of all classes of customers.*
- Customers receive a competitive price.*
- Service reliability maintained.*
- Energy efficiency services maintained.*
- Deregulation in Texas is successfully implemented.*



# *Austin Energy's Response to "New Market"*

- ★ *Rewrite strategic Plan*
- ★ *We want Austin to be the most livable community in the country.*
- ★ *New focus on energy services:  
High quality, reliable, affordable,  
environmentally friendly*
- ★ *Services that delight customers*



## *City Council Resolution*

*“Austin Energy will undertake a survey of potential for cogeneration and on-site generation for industries and large commercial building in its service area to assess the potential for such generation and to identify potential candidates.”*

*August 24, 2000*

**DOMAIN IS NUMBER ONE ON THE LIST!!**



# *Mayor's Proclamation*

- **RESOLUTION NO. 030828-38**

- WHEREAS, Austin's environmental stewardship is a community priority and is a major reason for our renowned quality of life; and,
- WHEREAS, Austin's community-owned electric utility, Austin Energy, is a national leader in promoting and using environmentally-friendly renewable energy and energy efficiency programs; and,
- WHEREAS, Austin Energy can play a strategic economic development role by helping to create new jobs in Austin; and,
- WHEREAS, Austin Energy's GreenChoice program ranks number one in the nation in green power sales according to the U.S. Department of Energy, with 2002's sales double the amount sold by second place Sacramento and third place Denver combined; and,
- WHEREAS, Austin Energy has sold more than half a billion kWh of green power to customers since the GreenChoice program's inception in 2000; and,
- WHEREAS, to meet the community's demand for clean energy, Austin Energy has purchased approximately 100 MW of renewables, about three percent of its overall energy resources, well on the way to meeting the 1999 Council-established goal of five percent renewables by 2005; and,
- WHEREAS, Austin's commitment to clean energy and the environment is renowned nationally and internationally, which among other benefits, has helped to attract major successful clean energy events, such as the International Green Building Conference, the American Wind Energy Association Conference, and the American Solar Energy Society Conference; and,
- WHEREAS, Austin's and its neighboring communities' visible and tangible support of clean energy has been instrumental in Central Texas becoming home to 80 clean energy business enterprises that generate more than \$250 million in annual revenues and employ approximately 2,600 people; and,
- WHEREAS, Austin is extremely well positioned to become the future Clean Energy Capital of the World; NOW, THEREFORE,

- **BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF AUSTIN THAT:**

- The City Council directs the City Manager to have Austin Energy develop and incorporate strategies in its Strategic Plan that will ensure Austin remains a national and international leader in the development and use of clean energy; and,

- **BE IT FURTHER RESOLVED:**

- That Austin Energy's clean energy strategies shall feature at a minimum:
- 1. A strategic planning process that includes progressive and ambitious renewable energy and energy conservation programs and, the nation's leading Renewable Portfolio Standard.
- 2. An emphasis on economic development for successful development, recruitment and retention of clean energy business enterprises.
- 3. A risk management approach, which positions Austin Energy for a transition to a clean energy future through the successful identification and incorporation of promising energy technologies.
- 4. Mitigation of carbon emissions from current and future fossil fuel facilities to reduce the negative effects of global warming.

- **ADOPTED: August 28, 2003**

- **ATTEST:**

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**Shirley A. Brown**  
• **City Clerk**





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# AUSTIN BUSINESS JOURNAL

## **Report: Austin poised to become 'clean energy capital'**

Austin is positioning itself to become the "Clean Energy Capital of the World," according to Houston-based market research company Industrial Information Resources Inc.

The U.S. Department of Energy recently noted Austin recorded green energy sales in 2002 that were double the amount sold by the city of Sacramento, Calif., and Minneapolis-based electricity powerhouse Xcel Energy Inc. [NYSE: XEL] combined.

The Austin City Council recently passed a resolution directing the municipal utility Austin Energy to "develop and incorporate a strategic plan that will ensure Austin remains a national and international leader in the development and use of clean energy," according to an Industrial Information Resources report.

Austin is on its way to meeting the council's 1999 goal of 5 percent renewable energy sales by 2005, according to the report. Through its GreenChoice Program, Austin Energy offers retail and commercial customers the option to choose renewable power sources such as wind and solar power.

Austin Energy's largest resource consists of 61 wind turbines on King Mountain in West Texas. GreenChoice receives electricity from the Tessman Landfill Biogas Project near San Antonio, as well as a small hydroelectric plant in Cuero on the Guadalupe River.

The report also states Austin has landed clean energy events such as the International Green Building Conference and the American Solar Energy Society Conference.

In addition, Central Texas is home to at least 80 clean energy business enterprises that generate more than \$250 million in annual revenue and employ 2,600 people, according to the report.

Furthermore, Austin is home to the Clean Energy Incubator, which helps young clean energy companies succeed. The Clean Energy Incubator is a program of the Austin Technology Incubator and the IC2 Institute at the University of Texas.



## AUSTIN BUSINESS JOURNAL

### **City, Austin Energy to receive energy award**

The city of Austin and the Austin Energy municipal utility will receive the highest honor from the Washington, D.C.-based Alliance to Save Energy for outstanding efforts in energy efficiency, the conservation organization announced Friday.

Mayor Will Wynn will accept the award in November on behalf of the city and Austin Energy, which invests nearly \$15 million annually in energy efficiency programs. Austin Energy offers energy audits, rebates and loans, and free weatherization for low-income customers.

Nearly 500,000 people have taken advantage of Austin Energy's efficiency programs since 2000, according to the Alliance to Save Energy.

The Alliance to Save Energy is a coalition of business, government, environmental and consumer leaders who promote the efficient, clean use of energy.



## *Future Direction*

- ★ *Chamber of Commerce Economic Development Study - September 16, 2003 recommendations:*
- ★ *Grow "Next Wave" Sectors: Biotechnology, Nanotechnology, Clean Energy*
- ★ *Coordinate public-private partnerships (academia, private industry, government)*



# ***Goal: Grow Sustainable Energy in Austin...***

- ★ ***Downtown District Cooling** - Almost 3 MSF of buildings are cooled with AE's reliable, energy efficient chilled water*
- ★ ***DOMAIN Business Park** - District Energy Power Park: (chilled water-steam-compressed air). Features the Nation's first packaged Building Cooling Heating Power system (BCHP)*
- ★ ***RBJ Fuel Cell** - A 200 Kilo-watt unit - first fuel cell connected to the electric grid in Texas.*
- ★ ***Pending Projects:***
  - *Camp Mabry Fuel Cell*
  - *DOE Sponsored PEM demonstration Fuel Cell*
  - *Organic Rankine Cycle Distributed Generation*



# *Meeting our Goals...* *BCHP in Action!*

*Robert Mueller Municipal Airport Redevelopment*

- ★ *Building Cooling Heating Power (BCHP) on site  
Meets thermal + Electrical Demand for Hospital*
- ★ *Micro-grid electrical distribution*
- ★ *Allows continuous operations of the hospital even  
under prolonged electrical outage (even the vending  
machines!)*
- ★ *Sound economic and technical decision for  
customer and utility*





# *Future Direction*

- ★ *Aggressive renewable energy goals (20% by 2020)*
- ★ *Embrace sustainable technologies*
- ★ *Plan DG, BCHP and Sustainable solutions to help meet Utility's generation needs*
- ★ *Converge: clean energy industry + economic development opportunities + conservation/DSM + generation planning + environmental stewardship*



# *Future Direction*

*Sustainable Energy Idea incubator*

*Adopt or demonstrate market potential*

*Real Life Commercialization*







# *Our Challenge*

- ★ *Deliver on DOE's view of BCHP for a sustainable energy future*
- ★ *Market - communicate the message!*
- ★ *Constant improvement*